

INNOVATE

Visionary ideas and inspired creativity have helped us become a world leader in the fabrication of neural prosthetics, biomedical microfluidic systems and biosensor chips.

FABRICATE

The Utah Nanofab provides the equipment, processes and expertise necessary to design, build and package revolutionary micro and nanoscale devices. Facilities include device modeling, design layout, mask fabrication, thin film deposition, patterning and device packaging.

EVALUATE

The Micron Microscopy Suite provides state-of-the-art tools to fully characterize and understand nanoscale surface, film and device properties.

EDUCATE

Nanofab coursework includes microfluidics, solar cell design, micromachining, semiconductor device physics, and surface analysis. Our research and process engineers teach, train and help develop the minds and technical skills of researchers and students, alike.

CREATE

The discoveries made in the Nanofab help create life-saving medical devices, faster microchips and more efficient energy systems, resulting in scientific publications and new companies.

TECHNICAL EXPERTISE

BIOMEDICAL MICROSYSTEMS

- In vivo neural prosthetics
- Implantable blood glucose monitoring
- In vitro cell sensing
- Optical DNA/protein biosensor microarrays

BIOMEDICAL MICROFLUIDICS

- Lab on a chip systems
- Targeted drug delivery
- Disease detection
- BioMEMS
- Field flow fractionation
- Valves and pumps
- Nanomedicine

NANOSCALE RESEARCH

- NEMS
- Nanopatterning
- Nanotubes and nanoparticles

ENERGY AND NANOPHOTONICS

- High efficiency photovoltaic solar cells
- Optical interconnect and waveguides
- Nanolithography
- Plasmonic nanostructures

ENVIRONMENTAL MONITORING

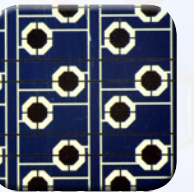
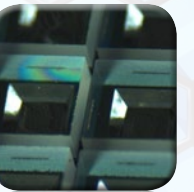
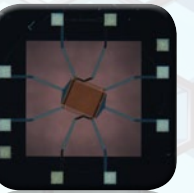
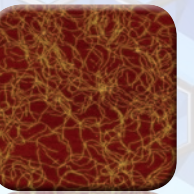
- Hazardous gas microsensors
- Piezo and capacitive pressure sensing

MATERIALS AND SURFACE CHARACTERIZATION

- Bioimaging
- Failure analysis and process feedback

PACKAGING

- Heterogeneous device integration
- Wafer to wafer bonding
- Hermetic sealing
- Biocompatible packaging





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NEW FACILITIES

- 18,000 sq ft cleanroom space
- ISO 4/5/6
- Biobay
- 5,300 sq ft microscopy and materials characterization suite

ECONOMIC IMPACT

- Supporting more than \$70 million in research funding across campus
- Providing technical services to multiple industries, national labs, and universities
- Training engineers and scientists for employment in semiconductor, research, and biomedical device companies

INDUSTRY SUPPORT AND SERVICES

- Industrial and academic access
- R & D facilities and equipment
- Consulting and engineering assistance and training
- Offering design, fabrication and characterization services

MISSION

The Utah Nanofab advances leading edge research and facilitates economic growth by providing world-class nanofabrication facilities, infrastructure, and staff to academia and industry.

VISION

The Utah Nanofab will become a recognized leader in innovation and a premier nanotechnology center with an interface to biomedical sciences. Through the efforts of the Utah Nanofab, the frontiers of nanotechnology research will be expanded, the next generation of engineers and leaders will be educated, and economic growth will be supported by the sustainable transfer of technology into meaningful commercialization outcomes.

EXTRAMURAL RESEARCH SPONSORS

